

REMARKS/ARGUMENTS

I. Amendment to the Specification

The "Description of the Figures" section has been amended so the figure references correspond to the amended figure legends of some of the replacement drawings (see below).

None of these changes introduces new matter.

II. Formal Drawings

A complete set of formal drawings are attached. The figure references for FIGS. 9, 12, 13, 14, 30, 36, 42, 46, 47, 50, 51 and 53 that each include multiple sheets have been amended so the additional sheets no longer say "continued" but instead are labeled as sheets "A", "B," "C", etc.

Applicants also submit a correction to Figure 53. Figure 53 shows the DNA sequence of plasmid pGRN121, and the polypeptide encoded by this sequence (see the original specification at, e.g., page 83, lines 3-6, and page 16, lines 2-3). Applicants sequenced plasmid pGRN121, which was deposited with the American Type Culture Collection as ATCC accession #209016 on May 6, 1997, prior to the filing of the subject application. The deposit is noted in the original specification at page 82, lines 8-16. Although Applicants correctly determined the protein coding sequence of pGRN121, three nucleotide errors of an editorial or typographical nature were introduced during the preparation of the documents used as the basis for Figure 53. As noted in the accompanying annotated sheets, the codon at position 578 was transcribed as "CCG (pro)" and has been corrected to "AAG (lys)," and the codon at position 958 was transcribed as "GTC (val)" and has been corrected to "CTC (leu)." The coding sequence of pGRN121 is an inherent property of the deposited plasmid, providing basis for this correction, and there is no new matter added by this correction.

The sequence listing submitted January 18, 2002 provides the nucleotide and amino acid sequences as shown in the corrected version of Figure 53. Thus, no changes to the sequence listing are required.

Appl. No. 10/054,611
Amdt. dated July 26, 2004
Supplemental Amendment

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Scott Ausenhus", written in a cursive style.

Scott L. Ausenhus
Reg. No. 42,271

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 303-571-4000
Fax: 415-576-0300
Attachments
SLA:tnd
60268909 v1



FIGURE 53

1
met
GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCG ATG

10
pro arg ala pro arg cys arg ala val arg ser leu leu arg ser
CCG CGC GCT CCC CGC TGC CGA GCC GTG CGC TCC CTG CTG CGC AGC

20 30
his tyr arg glu val leu pro leu ala thr phe val arg arg leu
CAC TAC CGC GAG GTG CTG CCG CTG GCC ACG TTC GTG CGG CGC CTG

40
gly pro gln gly trp arg leu val gln arg gly asp pro ala ala
GGG CCC CAG GGC TGG CGG CTG GTG CAG CGC GGG GAC CCG GCG GCT

50 60
phe arg ala leu val ala gln cys leu val cys val pro trp asp
TTC CGC GCG CTG GTG GCC CAG TGC CTG GTG TGC GTG CCC TGG GAC

70
ala arg pro pro pro ala ala pro ser phe arg gln val ser cys
GCA CGG CCG CCC CCC GCC GCC CCC TCC TTC CGC CAG GTG TCC TGC

80 90
leu lys glu leu val ala arg val leu gln arg leu cys glu arg
CTG AAG GAG CTG GTG GCC CGA GTG CTG CAG AGG CTG TGC GAG CGC

100
gly ala lys asn val leu ala phe gly phe ala leu leu asp gly
GGC GCG AAG AAC GTG CTG GCC TTC GGC TTC GCG CTG CTG GAC GGG

110 120
ala arg gly gly pro pro glu ala phe thr thr ser val arg ser
GCC CGC GGG GGC CCC CCC GAG GCC TTC ACC ACC AGC GTG CGC AGC

130
tyr leu pro asn thr val thr asp ala leu arg gly ser gly ala
TAC CTG CCC AAC ACG GTG ACC GAC GCA CTG CGG GGG AGC GGG GCG



FIGURE 53 (cont.)

140
trp gly leu leu leu arg arg val gly asp asp val leu val his
TGG GGG CTG CTG CTG CGC CGC GTG GGC GAC GAC GTG CTG GTT CAC

150
leu leu ala arg cys ala leu phe val leu val ala pro ser cys
CTG CTG GCA CGC TGC GCG CTC TTT GTG CTG GTG GCT CCC AGC TGC

160
ala tyr gln val cys gly pro pro leu tyr gln leu gly ala ala
GCC TAC CAG GTG TGC GGG CCG CCG CTG TAC CAG CTC GGC GCT GCC

170
thr gln ala arg pro pro pro his ala ser gly pro arg arg arg
ACT CAG GCC CGG CCC CCG CCA CAC GCT AGT GGA CCC CGA AGG CGT

180
leu gly cys glu arg ala trp asn his ser val arg glu ala gly
CTG GGA TGC GAA CGG GCC TGG AAC CAT AGC GTC AGG GAG GCC GGG

190
val pro leu gly leu pro ala pro gly ala arg arg arg gly gly
GTC CCC CTG GGC CTG CCA GCC CCG GGT GCG AGG AGG CGC GGG GGC

200
ser ala ser arg ser leu pro leu pro lys arg pro arg arg gly
AGT GCC AGC CGA AGT CTG CCG TTG CCC AAG AGG CCC AGG CGT GGC

210
ala ala pro glu pro glu arg thr pro val gly gln gly ser trp
GCT GCC CCT GAG CCG GAG CGG ACG CCC GTT GGG CAG GGG TCC TGG

220
ala his pro gly arg thr arg gly pro ser asp arg gly phe cys
GCC CAC CCG GGC AGG ACG CGT GGA CCG AGT GAC CGT GGT TTC TGT

230
val val ser pro ala arg pro ala glu glu ala thr ser leu glu
GTG GTG TCA CCT GCC AGA CCC GCC GAA GAA GCC ACC TCT TTG GAG

240
250
260
270
280

FIGURE 53 (cont.)



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|
| | | | | | | | | | | | | | | 290 | | | | | | | | | | | | | | | 300 |
| gly | ala | leu | ser | gly | thr | arg | his | ser | his | pro | ser | val | gly | arg | | | | | | | | | | | | | | | |
| GGT | GCG | CTC | TCT | GGC | ACG | CGC | CAC | TCC | CAC | CCA | TCC | GTG | GGC | CGC | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 310 | | | | | | | | | | | | | | | |
| gln | his | his | ala | gly | pro | pro | ser | thr | ser | arg | pro | pro | arg | pro | | | | | | | | | | | | | | | |
| CAG | CAC | CAC | GCG | GGC | CCC | CCA | TCC | ACA | TCG | CGG | CCA | CCA | CGT | CCC | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 320 | | | | | | | | | | | | | | | 330 |
| trp | asp | thr | pro | cys | pro | pro | val | tyr | ala | glu | thr | lys | his | phe | | | | | | | | | | | | | | | |
| TGG | GAC | ACG | CCT | TGT | CCC | CCG | GTG | TAC | GCC | GAG | ACC | AAG | CAC | TTC | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 340 | | | | | | | | | | | | | | | |
| leu | tyr | ser | ser | gly | asp | lys | glu | gln | leu | arg | pro | ser | phe | leu | | | | | | | | | | | | | | | |
| CTC | TAC | TCC | TCA | GGC | GAC | AAG | GAG | CAG | CTG | CGG | CCC | TCC | TTC | CTA | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 350 | | | | | | | | | | | | | | | 360 |
| leu | ser | ser | leu | arg | pro | ser | leu | thr | gly | ala | arg | arg | leu | val | | | | | | | | | | | | | | | |
| CTC | AGC | TCT | CTG | AGG | CCC | AGC | CTG | ACT | GGC | GCT | CGG | AGG | CTC | GTG | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 370 | | | | | | | | | | | | | | | |
| glu | thr | ile | phe | leu | gly | ser | arg | pro | trp | met | pro | gly | thr | pro | | | | | | | | | | | | | | | |
| GAG | ACC | ATC | TTT | CTG | GGT | TCC | AGG | CCC | TGG | ATG | CCA | GGG | ACT | CCC | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 380 | | | | | | | | | | | | | | | 390 |
| arg | arg | leu | pro | arg | leu | pro | gln | arg | tyr | trp | gln | met | arg | pro | | | | | | | | | | | | | | | |
| CGC | AGG | TTG | CCC | CGC | CTG | CCC | CAG | CGC | TAC | TGG | CAA | ATG | CGG | CCC | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 400 | | | | | | | | | | | | | | | |
| leu | phe | leu | glu | leu | leu | gly | asn | his | ala | gln | cys | pro | tyr | gly | | | | | | | | | | | | | | | |
| CTG | TTT | CTG | GAG | CTG | CTT | GGG | AAC | CAC | GCG | CAG | TGC | CCC | TAC | GGG | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 410 | | | | | | | | | | | | | | | 420 |
| val | leu | leu | lys | thr | his | cys | pro | leu | arg | ala | ala | val | thr | pro | | | | | | | | | | | | | | | |
| GTG | CTC | CTC | AAG | ACG | CAC | TGC | CCG | CTG | CGA | GCT | GCG | GTC | ACC | CCA | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 430 | | | | | | | | | | | | | | | |
| ala | ala | gly | val | cys | ala | arg | glu | lys | pro | gln | gly | ser | val | ala | | | | | | | | | | | | | | | |
| GCA | GCC | GGT | GTC | TGT | GCC | CGG | GAG | AAG | CCC | CAG | GCG | TCT | GTG | GCG | | | | | | | | | | | | | | | |

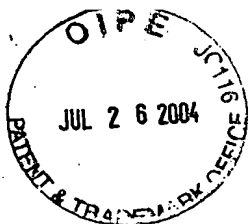


FIGURE 53 (cont.)

440
ala pro glu glu glu asp thr asp pro arg arg leu val gln leu
GCC CCC GAG GAG GAG GAC ACA GAC CCC CGT CGC CTG GTG CAG CTG

450
leu arg gln his ser ser pro trp gln val tyr gly phe val arg
CTC CGC CAG CAC AGC AGC CCC TGG CAG GTG TAC CGC TTC GTG CGG

460
470
ala cys leu arg arg leu val pro pro gly leu trp gly ser arg
GCC TGC CTG CGC CGG CTG GTG CCC CCA GGC CTC TGG GGC TCC AGG

480
490
his asn glu arg arg phe leu arg asn thr lys lys phe ile ser
CAC AAC GAA CGC CGC TTC CTC AGG AAC ACC AAG AAG TTC ATC TCC

500
leu gly lys his ala lys leu ser leu gln glu leu thr trp lys
CTG GGG AAG CAT GCC AAG CTC TCG CTG CAG GAG CTG ACG TGG AAG

510
520
met ser val arg asp cys ala trp leu arg arg ser pro gly val
ATG AGC GTG CGG GAC TGC GCT TGG CTG CGC AGG AGC CCA GGG GTT

530
gly cys val pro ala ala glu his arg leu arg glu glu ile leu
GGC TGT GTT CCG GCC GCA GAG CAC CGT CTG CGT GAG GAG ATC CTG

540
550
ala lys phe leu his trp leu met ser val tyr val val glu leu
GCC AAG TTC CTG CAC TGG CTG ATG AGT GTG TAC GTC GTC GAG CTG

560
leu arg ser phe phe tyr val thr glu thr thr phe gln lys asn
CTC AGG TCT TTC TTT TAT GTC ACG GAG ACC ACG TTT CAA AAG AAC

lys
580
arg leu phe phe tyr arg (pro) ser val trp ser lys leu gln ser
AGG CTC TTT TTC TAC CGG CCG AGT GTC TGG AGC AAG TTG CAA AGC

590
ile gly ile arg gln his leu lys arg val gln leu arg glu leu
ATT GGA ATC AGA CAG CAC TTG AAG AGG GTG CAG CTG CGG GAG CTG

600



FIGURE 53 (cont.)

610
ser glu ala glu val arg gln his arg glu ala arg pro ala leu
TCG GAA GCA GAG GTC AGG CAG CAT CGG GAA GCC AGG CCC GCC CTG

620
leu thr ser arg leu arg phe ile pro lys pro asp gly leu arg
CTG ACG TCC AGA CTC CGC TTC ATC CCC AAG CCT GAC GGG CTG CGG

630
pro ile val asn met asp tyr val val gly ala arg thr phe arg
CCG ATT GTG AAC ATG GAC TAC GTC GTG GGA GCC AGA ACG TTC CGC

640
arg glu lys arg ala glu arg leu thr ser arg val lys ala leu
AGA GAA AAG AGG GCC GAG CGT CTC ACC TCG AGG GTG AAG GCA CTG

650
phe ser val leu asn tyr glu arg ala arg arg pro gly leu leu
TTC AGC GTG CTC AAC TAC GAG CGG GCG CGG CGC CCC GGC CTC CTG

660
gly ala ser val leu gly leu asp asp ile his arg ala trp arg
GGC GCC TCT GTG CTG GGC CTG GAC GAT ATC CAC AGG GCC TGG CGC

670
thr phe val leu arg val arg ala gln asp pro pro pro glu leu
ACC TTC GTG CTG CGT GTG CGG GCC CAG GAC CCG CCG CCT GAG CTG

680
tyr phe val lys val asp val thr gly ala tyr asp thr ile pro
TAC TTT GTC AAG GTG GAT GTG ACG GGC GCG TAC GAC ACC ATC CCC

690
gln asp arg leu thr glu val ile ala ser ile ile lys pro gln
CAG GAC AGG CTC ACG GAG GTC ATC GCC AGC ATC ATC AAA CCC CAG

700
asn thr tyr cys val arg arg tyr ala val val gln lys ala ala
AAC ACG TAC TGC GTG CGT CGG TAT GCC GTG GTC CAG AAG GCC GCC

710
his gly his val arg lys ala phe lys ser his val ser thr leu
CAT GGG CAC GTC CGC AAG GCC TTC AAG AGC CAC GTC TCT ACC TTG

720
730
740
750
760

FIGURE 53 (cont.)

770
 thr asp leu gln pro tyr met arg gln phe val ala his leu gln
 ACA GAC CTC CAG CCG TAC ATG CGA CAG TTC GTG GCT CAC CTG CAG

780
 glu thr ser pro leu arg asp ala val val ile glu gln ser ser
 GAG ACC AGC CCG CTG AGG GAT GCC GTC GTC ATC GAG CAG AGC TCC

790
 ser leu asn glu ala ser ser gly leu phe asp val phe leu arg
 TCC CTG AAT GAG GCC AGC AGT GGC CTC TTC GAC GTC TTC CTA CGC

800
 phe met cys his his ala val arg ile arg gly lys ser tyr val
 TTC ATG TGC CAC CAC GCC GTG CGC ATC AGG GGC AAG TCC TAC GTC

810
 gln cys gln gly ile pro gln gly ser ile leu ser thr leu leu
 CAG TGC CAG GGG ATC CCG CAG GGC TCC ATC CTC TCC ACG CTG CTC

820
 cys ser leu cys tyr gly asp met glu asn lys leu phe ala gly
 TGC AGC CTG TGC TAC GGC GAC ATG GAG AAC AAG CTG TTT GCG GGG

830
 ile arg arg asp gly leu leu leu arg leu val asp asp phe leu
 ATT CCG CCG GAC GGG CTG CTC CTG CGT TTG GTG GAT GAT TTC TTG

840
 leu val thr pro his leu thr his ala lys thr phe leu arg thr
 TTG GTG ACA CCT CAC CTC ACC CAC GCG AAA ACC TTC CTC AGG ACC

850
 leu val arg gly val pro glu tyr gly cys val val asn leu arg
 CTG GTC CGA GGT GTC CCT GAG TAT GGC TGC GTG GTG AAC TTG CGG

860
 lys thr val val asn phe pro val glu asp glu ala leu gly gly
 AAG ACA GTG GTG AAC TTC CCT GTA GAA GAC GAG GCC CTG GGT GGC

870
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

880
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

890
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

900
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

910
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

920
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC

930
 thr ala phe val gln met pro ala his gly leu phe pro trp cys
 ACG GCT TTT GTT CAG ATG CCG GCC CAC GGC CTA TTC CCC TGG TGC



FIGURE 53 (cont.)

940
gly leu leu leu asp thr arg thr leu glu val gln ser asp tyr
GGC CTG CTG CTG GAT ACC CGG ACC CTG GAG GTG CAG AGC GAC TAC
leu
950
ser ser tyr ala arg thr ser ile arg ala ser val thr phe asn
TCC AGC TAT GCC CGG ACC TCC ATC AGA GCC AGT GTC ACC TTC AAC
960
970
arg gly phe lys ala gly arg asn met arg arg lys leu phe gly
CGC GCC TTC AAG GCT GGG AGG AAC ATG CGT CGC AAA CTC TTT GGG
980
val leu arg leu lys cys his ser leu phe leu asp leu gln val
GTC TTG CGG CTG AAG TGT CAC AGC CTG TTT CTG GAT TTG CAG GTG
990
1000
asn ser leu gln thr val cys thr asn ile tyr lys ile leu leu
AAC AGC CTC CAG ACG GTG TGC ACC AAC ATC TAC AAG ATC CTC CTG
1010
leu gln ala tyr arg phe his ala cys val leu gln leu pro phe
CTG CAG GCG TAC AGG TTT CAC GCA TGT GTG CTG CAG CTC CCA TTT
1020
1030
his gln gln val trp lys asn pro thr phe phe leu arg val ile
CAT CAG CAA GTT TGG AAG AAC CCC ACA TTT TTC CTG CGC GTC ATC
1040
ser asp thr ala ser leu cys tyr ser ile leu lys ala lys asn
TCT GAC ACG GCC TCC CTC TGC TAC TCC ATC CTG AAA GCC AAG AAC
1050
1060
ala gly met ser leu gly ala lys gly ala ala gly pro leu pro
GCA GGG ATG TCG CTG GGG GCC AAG GGC GCC GCC GGC CCT CTG CCC
1070
ser glu ala val gln trp leu cys his gln ala phe leu leu lys
TCC GAG GCC GTG CAG TGG CTG TGC CAC CAA GCA TTC CTG CTC AAG
1080
1090
leu thr arg his arg val thr tyr val pro leu leu gly ser leu
CTG ACT CGA CAC CGT GTC ACC TAC GTG CCA CTC CTG GGG TCA CTC

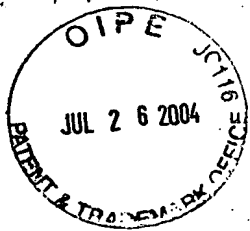


FIGURE 53 (cont.)

1100 1110
arg thr ala gln thr gln leu ser arg lys leu pro gly thr thr
AGG ACA GCC CAG ACG CAG CTG AGT CGG AAG CTC CCG GGG ACG ACG

1120
leu thr ala leu glu ala ala ala asn pro ala leu pro ser asp
CTG ACT GCC CTG GAG GCC GCA GCC AAC CCG GCA CTG CCC TCA GAC

1130 1132
phe lys thr ile leu asp OP
TTC AAG ACC ATC CTG GAC TGA TGGCCACCCGCCACAGCCAGGCCGAGAGCAGA
CACCAGCAGCCCTGTACGCCCGGCTCTACGTCCCAGGGAGGGAGGGGCGGCCACACCC
AGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAGTGTTTGGCCGAGGCCTGCATGTCC
GGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCTGAGTGTC
CAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCAGGGCCAG
CTTTTCYTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCCCCAGATT
CGCCATTGTTACCCYTCGCCCTGCCYTCCTTTGCCTTCCACCCCCACCATCCAGGTGGA
GACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCCCTGTA
CACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGGGAGGTGC
TGTGGGAGTAAAATACTGAATATATGAGTTTTTTCAGTTTTTGRAAAAAAAAAAAAAAAAAAA
AAAAAAAAAA